

## ABSTRACT

In accordance with the invention, an electrically conducting charge transfer channel is formed in a semiconductor substrate and an electrically insulating layer is formed on a surface of the substrate; a layer of gate electrode material is formed on the insulating layer. On the gate material layer is formed a first patterned masking layer having apertures that expose regions of the underlying gate material layer that are to form gate electrodes, and the first-pattern-exposed regions of the gate material layer are electrically doped. In addition, on the gate material layer is formed a second patterned masking layer having apertures that expose regions of the underlying gate material layer that are to form gaps between gate electrodes, and the second-pattern-exposed regions of the gate material layer are etched.